FontLAB

TransType

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MAC, PC, POSTSCRIPT, TRUETYPE –
BASIC FONT CONVERTER

User's manual for macintosh

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Introduction

TransType is a TrueType and PostScript Type 1 font conversion utility. It can convert PC fonts to Macintosh, Macintosh fonts to PC, Type 1 fonts to TrueType and TrueType fonts to Type 1. Moreover it can do platform and format conversions at the same time. There are several important features that make TransType different from other font conversion programs:

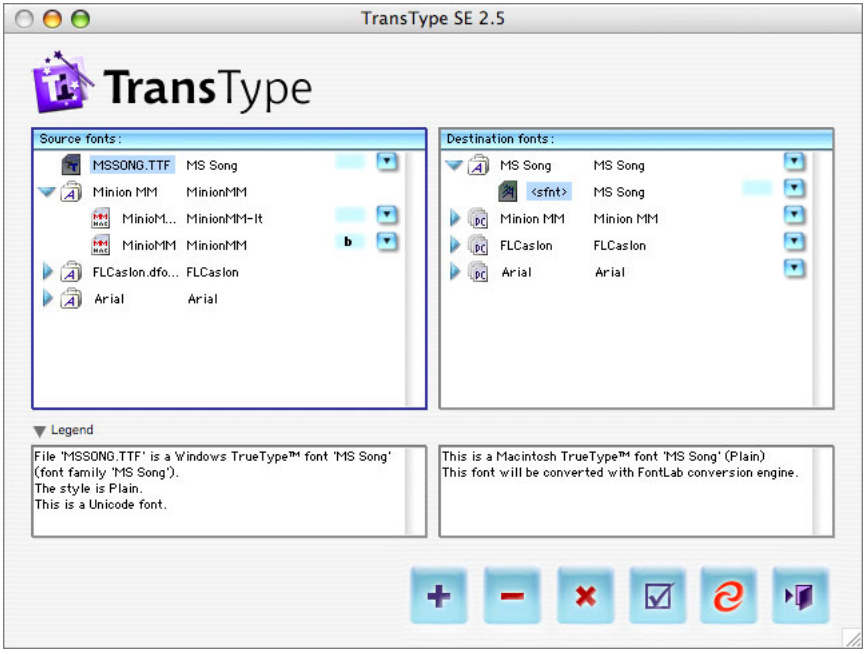
1. TransType correctly converts fonts with Roman and non-Roman encoding and allows you to select both source and destination encoding while you convert fonts in either direction (PC–>Mac, Mac–>PC, TrueType–>Type 1, Type 1–>TrueType). The font-previewing feature helps select proper encodings.
2. TransType automatically controls the building of font suitcases when you convert families of PC fonts to Macintosh. You can move fonts from one suitcase to another, but in most cases it's unnecessary – TransType does it for you.
3. TransType can automatically generate bitmap fonts when you convert to Macintosh Type 1 format.
4. TransType can convert multiple master Type 1 fonts either into single master or into multiple master Type 1 fonts or into TrueType fonts for any platform – PC or Macintosh.
5. You can quickly and easily preview the fonts that are not installed in your System.
6. TransType can convert from VFB (FontLab's internal format) into TrueType or Type 1.
7. If a StuffIt product is installed TransType can also accept .sit archives containing fonts.

In this document we assume that you have a basic knowledge of computer fonts, font formats and encodings. Refer to documents from the Bibliography section for more advanced information and to Appendix A for the basics.

Note: Here and later, when speaking about font formats, we use the words *PC* and *Windows* as synonyms.

User Interface

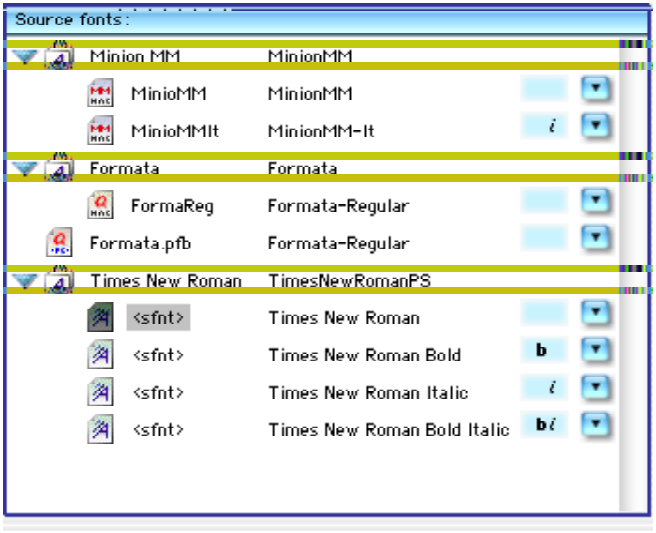
TransType's Main Window consists of several parts: the Source and Destination lists, the Legend fields and the Command buttons.



TransType Main Window

Source Fonts List

The Source list contains the names of the fonts (PC and Macintosh in TrueType, FontLab (VFB) or Type 1 formats) that you are going to convert. You can convert all different kinds of fonts in one step and TransType will automatically convert Macintosh fonts to PC and vice versa. TrueType will be converted to TrueType and Type 1 to Type 1 by default.



Source Fonts List

As you can see, the presentation of different kinds of fonts in this list depends on the font's platform and type. The following icons are used:

	Macintosh font suitcase. Click on the blue triangle to the left of the folder icon to see the contents of the suitcase. Click with the **Option** key depressed to open all the suitcases. Click again with the **Option** key down to close them all.
	Macintosh Type 1 font ('post' resource) referenced by the font suitcase
	Macintosh multiple master Type 1 font
	Macintosh TrueType font ('sfnt' resource) inside a font suitcase
	PC (MS Windows) Type 1 font (usually has PFB extension)
	PC (MS Windows) multiple master Type 1 font (usually has PFB extension)
	PC (MS Windows) TrueType font (usually has TTF extension)
	FontLab 3 or FontLab 4 font in VFB format (usually has VFB extension)

The Source list has two main columns: the font file name and the font name.

***Note*:** If you see the text "<sfnt>" instead of the file name it means that this is a 'sfnt' resource located inside a Macintosh font suitcase and doesn't have its own file name.

To the right of the font name you will see style icons, which give you the information about the font's style. Only 4 main styles can be recognized:

	Font is Italic
	Font is Bold
	Font is Bold Italic
	Font is Plain

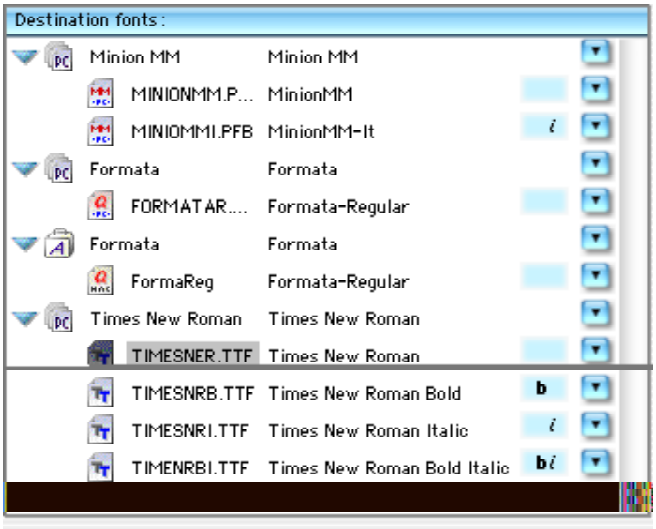
The Legend panel is located below the font lists. It includes a short description of the item currently selected in the source list:

Legend
File 'ARIALI.TTF' is a Windows TrueType™ font 'Arial Cursiva' (font family 'Arial').
The style is Italic.
This is a Unicode font.
This is a Macintosh TrueType™ font 'Arial' (Italic)
This font will be converted with FontLab conversion engine.

You can hide the **Legend** panel by clicking the triangle at the left.

Destination Fonts List

The Destination fonts list is located in the right part of the TransType Main Window:



Destination Fonts List

The Destination list contains the names of fonts as they will look after conversion. If you are converting PC fonts to Macintosh it will contain Macintosh font suitcases that will be automatically generated by TransType. If you convert Macintosh fonts to PC, then you'll see "virtual" font suitcases that will contain PC font files united into a font family for easier maintenance in TransType. Click or Option-click on the triangle to the left to open these suitcases and see their contents.

Icons in this list have the same meaning as in the source fonts list.

The Destination list also has a **Legend** panel located below which contains a brief description of the selected item.

Pop-up Buttons

The items in Source and Destination lists contain pop-up buttons ( ) located at the right of the font and suitcase names. You can press these buttons to open pop-up menus where you can set the destination format, customize font conversion options, call for a family properties dialog or manipulate individual fonts and their styles.

Command Buttons

Command buttons are located in the right-bottom area of the Main Window:

Here is a brief description of each button (from left to right):

Add	Use this button to add fonts to the source font list and prepare them for conversion. Note that you can add fonts or even folders to the source list by simply drag-dropping them to the Main Window or onto the TransType icon in the Finder
Clear	Press this button to remove the currently selected font(s) from the source or destination list. Of course, the corresponding item(s) will also be removed from the other list
Clear All	Press this button to remove all the fonts from both lists
Preferences	Press this button to open the Preferences dialog containing various TransType settings
Convert	Press this button to begin the font conversion process. Note that it may be disabled in some circumstances – this means that you didn't provide enough information for the conversion process
Quit	Use this button to finish working with TransType and close the program.

Conversion Process

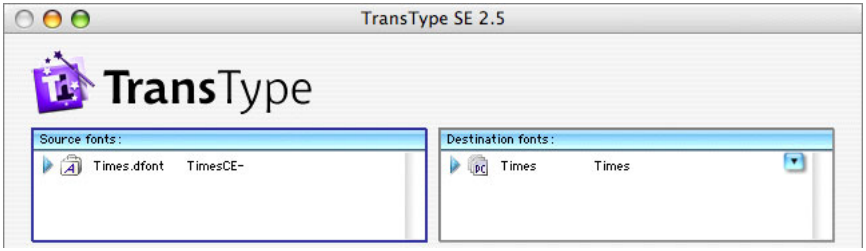
To convert fonts, you have to:

- Add the fonts you want to convert to the source list.
- Check and define the encoding and codepage settings for all the fonts in the source list, if necessary. The values selected in the **Preferences** dialog will be used by default.
- If necessary, change the destination font format (if you are converting TrueType fonts to Type 1 or vice versa).
- If necessary, organize destination suitcases (if you are converting PC fonts to Macintosh) and adjust the font properties.
- Press the **Convert** button.

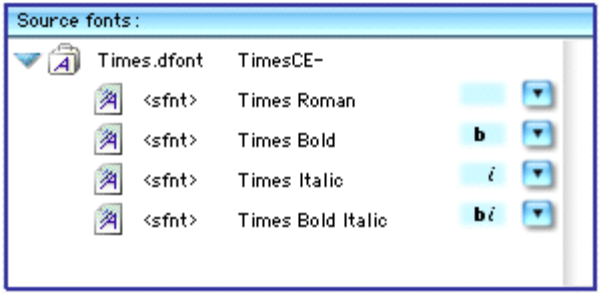
Converting a Sample Font

In this section we will show you how to convert one of the Macintosh system fonts to PC font format. We will not provide a detailed description of all operations here (it's provided later in the chapter) but will show you the main points as an example.

1. Open the ***Fonts*** folder in your ***System/Library Folder.***
2. Copy the ***Times.dfont*** file to the ***Desktop.***
3. Drag the ***Times.dfont*** font suitcase icon from the ***Desktop*** and drop it right on the TransType application's icon. TransType will launch and you will see its Main Window with the ***Times*** font in the Source list:

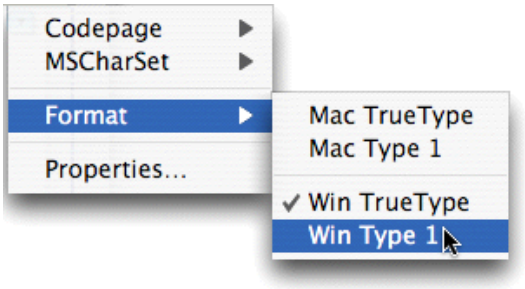


4. Click on the blue triangle to the left of the font suitcase icon in the Source Fonts list. The suitcase will "open" and you will see the fonts contained in the suitcase. The ***Times*** suitcase contains four separate TrueType fonts of four different styles: Plain (Roman), Bold, Italic and Bold Italic):



Source Font List

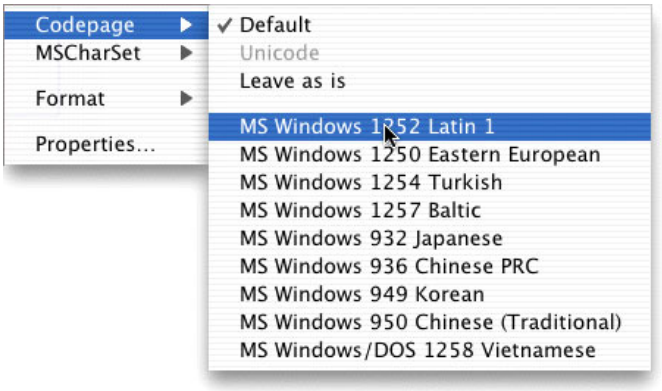
5. Refer to the Destination Fonts list. Press the pop-up menu button to the right of the font name and observe the menu contents:



Destination Format Submenu

As you can see there is an option to change the destination font format. Let's, for example, select **Win Type 1** option in the **Format** submenu. The ***Times*** font will be converted from Macintosh TrueType to PostScript Type 1 format for PC in this case.

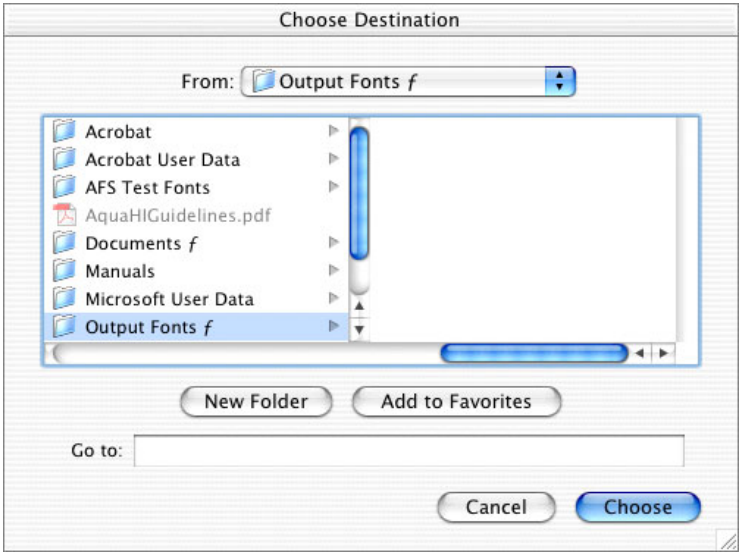
6. Now you must select the encoding for the fonts you are going to generate. Press the pop-up menu button for the second time and select the **MS Windows 1252 Latin 1** codepage in the **Codepage** submenu:



Destination Codepage Submenu

7. As the source ***Times*** font is a Unicode font, you needn't define the encoding for it in the Source Fonts list. Click on the button at the bottom of TransType Main Window to start the conversion process.

8. If you haven't defined the default destination folder in the **Preferences** dialog, TransType will ask you to choose the destination for the fonts generated:



Choose Destination Dialog

We recommend you create a new folder for the destination fonts. This will help when more than one font consisting of more than one file is converted at a time. In any case, select the destination folder and press the **Choose** button.

9. After the conversion process has finished, the Source and the Destination Fonts lists remain – so that you can convert the same fonts to another format or with other settings if you want. To finish working with TransType, press the rightmost button at the bottom of the Main Window and the program will quit.

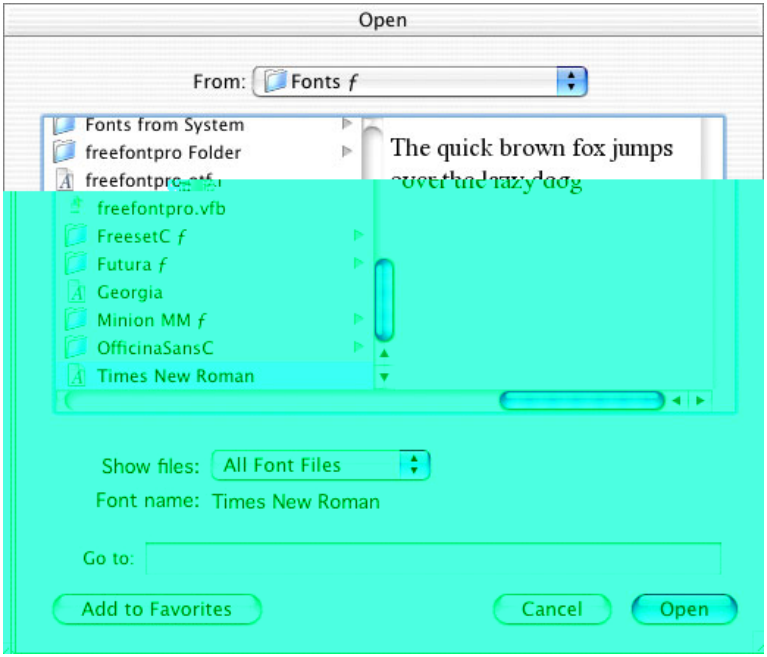
OK, so now you know how to do a simple Mac–>PC conversion. It's time to look at TransType's features in detail.

Adding Fonts to the Source List

To add one or more fonts to the source fonts list you can use two methods: the **Add** button or **drag-and-drop**.

To add fonts with the Add button:

1. Press the **Add** button or select the **Add** command in the **File** menu. You will see the standard Macintosh **File Open** dialog:



2. Select the fonts you want to add for processing and press the **Open** button. TransType will open every font selected, check it, and extract the information necessary for further processing.

To add fonts using the drag-and-drop method:

1. Open the folder with the fonts in the Finder.
2. Select the fonts you want to add and drag them to TransType's Main Window or onto the TransType icon.

Note: You can drag-and-drop not only individual fonts but also folders containing many fonts. Subfolders are processed recursively.

Note: When you add Macintosh Type 1 fonts for conversion you MUST add suitcases along with the printer font files.

After you have added fonts to the source list they will appear according to their structure. Thus Macintosh font suitcases appear as two-level items and PC font files as separate files. In the Destination list you will see the fonts as they will be when converted – PC fonts that will be converted to Macintosh formats will appear united in folders. Macintosh fonts converted to PC formats will keep their "suitcase" structure for easier navigation.

Note that filenames for the PC fonts that will be created during processing are generated automatically following the 8.3 requirements – this is necessary to maintain compatibility with older versions of Windows and DOS. This option is customizable for Windows fonts in **Preferences/General/Font Files Naming**.

Previewing Fonts

After you have added fonts to the source list you can preview the source fonts and how they will be converted in a different encoding.

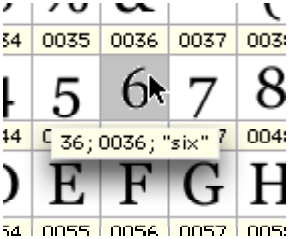
There is a blue triangle to the left of each suitcase icon. Click on this triangle to see the contents of the suitcase. Holding down the **Option** key while you click will show the contents of all the suitcases in the list.

To have a look at the particular font character set, double-click the font icon (not the suitcase icon) in the Source or Destination list. The font will open in the Preview window:

Font Preview Window

This window consists of two main parts: the font character chart and codepage options. If you opened this window from the Destination font list of the Main Window, you will see the destination font character chart preview. Switch between the source and destination preview by clicking on the corresponding tabs at the top of the chart.

The character chart contains the font glyphs' preview and their position in the currently selected encoding. Each character has a caption with its Unicode index. **To see the code and the name of the particular character**, press and hold down the mouse button while the mouse cursor is over the character's cell:



To change the encoding in the preview, use the **Codepage** pop-up menu at the bottom of the window. Note that by changing the codepage in the source or destination character chart preview you also define the source or destination encoding for conversion (see the next section for details).

To get access to all the possible codepages in the Codepage pop-up menu, uncheck the checkbox to the right of the menu. The **Codepage** pop-up menu will contain not just Macintosh or Windows codepages, but all codepages from the *Library/Application Support/FontLab/Codepage* and *Library/Application Support/ FontLab/TransType/Codepage* folders on your hard disk.

With the help of the TransType font preview feature you can easily define the appropriate conversion encodings for each font in the source list.

Note: You cannot set different encodings for different fonts in the same Macintosh suitcase or PC font family. When you set the encoding for one font in a suitcase (family) you set it for all the fonts in the suitcase (family).

Setting Conversion Options

After you have added fonts to the Source list (and the resulting font names have appeared in the Destination list) TransType usually is ready to begin conversion using the default settings. But sometimes you may need to change the conversion options, particularly the destination font format, the methods that TransType uses to reencode fonts and, if you are converting PC fonts to Macintosh, the styles of the generated fonts and their placement in suitcases.

Conversion of fonts between two main font formats – PostScript Type 1 and TrueType – is the feature that makes TransType an outstanding product. This conversion is not trivial and demands many options to be set correctly. Sometimes it is not possible to convert a font from one format to another without loss of font quality. That is why we will describe format conversion separately.

Reencoding of fonts is a very important feature of TransType too. This is necessary because Windows and Macintosh use different encodings to map codes in the 0-255 range to characters located in the font. Usually the first 128 characters are encoded the same way, but other characters, located in the 128-255 code range are not. Moreover, encoding of fonts is highly dependent on the language for which the font was designed and in no language is the Macintosh encoding the same as the one used in Windows.

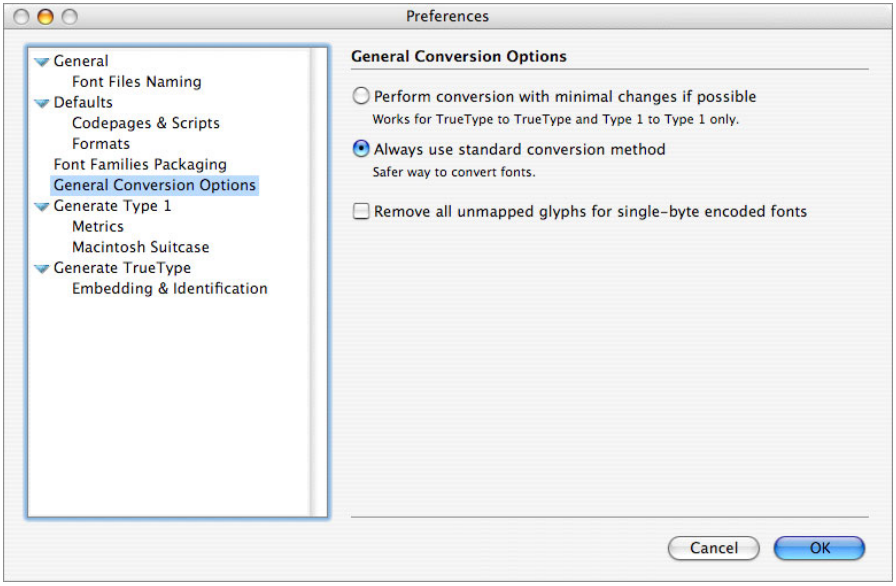
The method that the two systems use to identify font styles is also very different. On the Macintosh fonts that comprise a font family are grouped into a font suitcase. On Windows all the font files are separate and the system links them into the font family using style-identification flags set in each font.

We will give you a detailed description of each operation you can apply to customize the font conversion process. The descriptions are grouped in sections for each platform/format combination.

But we will describe the most common settings for the conversion process here in this section.

General Conversion Options

Click the **Preferences** button at the bottom of the Main Window and refer to the **General Conversion Options Page** of the **Preferences** dialog:



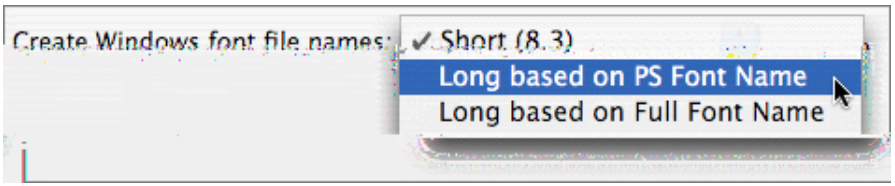
General Conversion Options Page of the Preferences Dialog

These general options are quite important. They actually switch between different conversion methods implemented in TransType:

Perform conversion with minimal changes if possible	If this option is selected, TransType will try to use our old conversion engine first introduced in TransType 1.x instead of the new FontLab conversion engine implemented in TransType. But switching on other options (like **Remove all unmapped glyphs...** or **Always decompose composites**) will force TransType to use the standard conversion method anyway. Moreover, the usage of TransType 1.x engine is possible only for conversion from Type 1 to Type 1 and TrueType to TrueType
Always use standard conversion method	If this option is selected, TransType will use the new FontLab conversion engine. This conversion algorithm allows you to convert Type 1 to TrueType and vice versa; and vfb files to other formats. The standard method sometimes may be used even when this option is off and another method is selected
Remove all unmapped glyphs for single-byte encoded fonts	If this option is checked, TransType will remove those glyphs of the source font that are not referenced by the destination codepage. The new font will become more compact. This option is off and all characters preserved by default.

Destination File Options

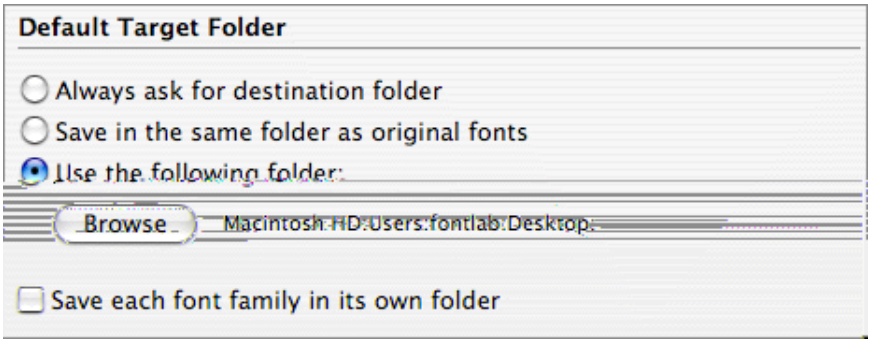
Use the **General/Font Files Naming Page** of the **Preferences** dialog to define the file naming scheme for Windows output fonts:



The options described here are used for generating font files in any Windows format:

Short (8.3) name	If this option is checked, TransType will generate file names for Windows fonts in DOS notation for more compatibility. This option is on by default
Long based on PS Font Name	If this option is checked, TransType will generate long file names. It will use the Font Name fields to generate file names
Long based on Full Font Name	If this option is checked, TransType will generate long file names and will use the Full Font Name fields.

Use the **Defaults Page** of the **Preferences** dialog to choose the place where new fonts will be stored:


Default Target Folder
Always ask for destination folder
Save in the same folder as original fonts
Use the following folder:
Browse
Macintosh HD:Users:fontlab:Desktop:
Save each font family in its own folder

Click the **Always ask for destination folder** radio button to make TransType open the standard Save File dialog for each conversion session. Click **Save in the same folder as original fonts** to let TransType save the converted fonts in the same place as the input fonts reside. To specify a particular folder, click the **Use the following folder** option and select your custom destination folder on the disk where you would like converted fonts to be stored.

And finally, if you check the **Save each font family in its own folder** option, then a separate folder will be created for each converted family in the folder selected as the destination folder. This is particularly useful for creating fonts in the Type 1 format.

PC to Macintosh Conversion

The following key points are important when PC fonts are converted to Macintosh format:

1. Only Macintosh font files have a resource-based structure.
2. Fonts that belong to a font family have to be united into a Macintosh font suitcase structure.
3. Type 1 font files on the Macintosh stay separate from the font suitcase files and are linked to the Macintosh font resources using name reference methods, similarly to the implementation on the PC platform.
4. Type 1 fonts on the Macintosh need to have at least one accompanying bitmap font file (NFNT resource).
5. Encoding, even for the Latin fonts, is different on Macintosh and PC.
6. Most PC fonts are encoded using Unicode, but in some cases simulated encodings are used.

In order to simplify things we describe only TrueType to TrueType and Type 1 to Type 1 conversions in this section. The differences of conversion between TrueType and Type 1 formats are described later in the TrueType<–>Type 1 Conversion section.

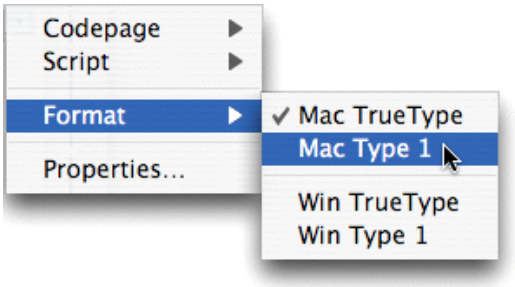
TrueType Fonts

When you add TrueType fonts to the source font list TransType does the following:

1. Opens the TrueType font file and extracts information about all the available glyphs, the Unicode mapping data, the font names and the font style (plain, bold, italic or bold-italic).
2. Tries to detect which encodings this font can support.
3. If several added TrueType fonts belong to the same family (the family name is the same and the style information is different), builds a destination font suitcase.
4. Prepares for PC TrueType to Macintosh TrueType conversion.

Changing Font Format

By default PC TrueType will be converted to Macintosh TrueType, but you can change the destination font format. Press the pop-up menu button located at the right of the suitcase name in the destination list to open the following pop-up menu:



Destination Format Pop-up Menu

Select the platform and the type for destination font.

➲ ***Tip***: You can change the default destination platform and format in the **Defaults/Formats Page** of the **Preferences** dialog.

Reencoding

Source TrueType fonts can have the following encodings:

1. Normal Unicode encoding. In this case all characters are assigned to their proper Unicode indexes. This makes it very easy to determine to which languages they belong and how they can be used.
2. Normal Symbol encoding. The codes in the 0-255 range are mapped to symbolic or pictorial characters.
3. Simulated Symbol encoding. Symbol encoding is used to map normal alphabet characters of a language to the 0-255 codes.
4. Simulated Unicode encoding. Unicode indexes of the Latin language are used to map characters of some other language to the 0-255 codes.

Only encodings 1 and 2 (normal Unicode and Symbol) give full information about mapping codes to characters. All other cases require you to make some additional definition(s). You must tell TransType which encoding is simulated by the Symbol or Latin Unicode indexes. When TransType gets this information from you it can assign proper Unicode indexes to characters and treat this font as a case 1 in our list. Using this method we can limit the number of potential source encoding configurations to two: Unicode and Symbol.

Symbol Encoding

Symbol encoding is usually used to map symbolic or pictorial characters to the 0-255 code space. No reencoding is necessary when you convert such fonts to Macintosh format, so TransType will simply copy the characters and you will use the same codes you used on the PC to access the characters.

Unicode Mapping

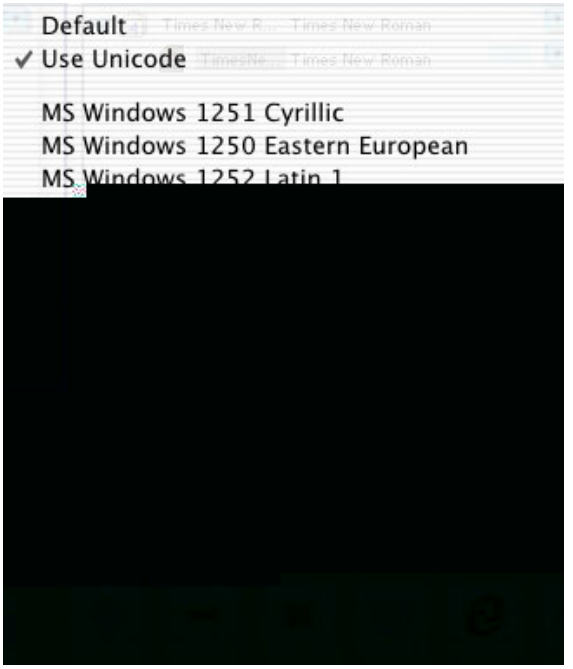
In the case of Unicode mapping in the source font all we need to do is to convert this encoding according to the Macintosh requirements. The problem is that on the Macintosh we can use only codes in the 0-255 range to access characters. This rule is not true in Mac OS X, but we will use the older requirements to let you build Macintosh fonts that will work on all Macintosh systems. So we need to carefully use this space.

Every language used on the Macintosh has a codepage mapping table that determines how characters are mapped to the 0-255 code space. When we know which characters are in the source font (with the help of Unicode indexing) and select a Macintosh codepage we can easily build a correctly mapped Macintosh TrueType font.

We'll describe below all the operations that you might need to perform to make a correctly encoded Macintosh TrueType font.

Defining the Source Encoding

When you add a PC TrueType font to the source list you can look in the legend field below it. If it says “This is a Unicode font”, that means that the font has a valid Unicode mapping table and the conversion is very simple. The Unicode table is used by default in this case, but you have the option to change the source encoding. Press the pop-up menu button at the right of the font name and the pop-up menu will appear:



Source Encoding Pop-up Menu

➲ ***Tip***: Press and hold down the **Option** key on the keyboard before pressing the pop-up menu button to get access to all the possible codepages.

When the font doesn't have a Unicode table or is encoded as a symbol font, the legend will not say that the font is "Unicode" and you will **have to use** the encoding pop-up menu. The **Use Unicode** item will be disabled in this case and you have to determine which encoding the source font has. The first item is **Default:** this means that TransType will use the codepage currently selected as default in the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog. The other items in the dropdown list are the names of codepages. Select one of these codepages if you know that that codepage is used in the source font.

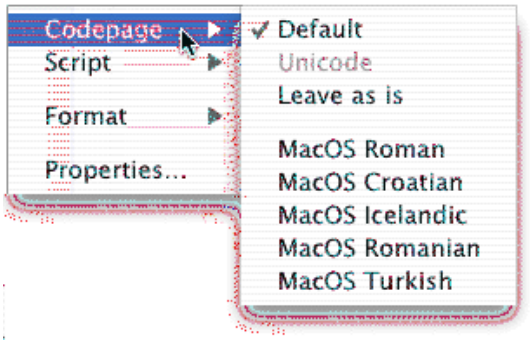
For example, if the source font is encoded as a symbol font but you know that actually it is a Cyrillic font, you should choose the **MS Windows 1251 Cyrillic** codepage in the pop-up menu and TransType will assign the correct Unicode indexes to all characters.

If you know that the source font is really a Symbol or pictorial font, select any item in this menu – it doesn't matter.

***Note*:** When a definition of the source codepage is necessary but none is selected (the default value is set to **Unspecified** and **Default** is selected in the pop-up menu) TransType will color the font's name in red and will disable the **Convert** button until you specify the source encoding of the font.

Defining the Destination Encoding

When you define the source encoding for a TrueType font you may also define the destination encoding. Press the pop-up menu button located at the right of the suitcase name in the destination list to open the following pop-up menu:



Destination Codepage Pop-up Menu

The menu contains the following items:

Codepage	Used to assign a destination codepage to the font
Script	Select the script identifier for the font as required by the Mac OS
Format	Used to change the destination platform or font format
Properties...	Select this command to open the **Properties** dialog where you can customize the properties of the destination font

Assigning the Codepage

In the **Codepage** submenu you can see three common commands and a list of Macintosh codepage names:

Default
Use the destination codepage selected as the default in **Defaults Page** of the **Preferences** dialog.

Unicode
Is not usable in the case described here.

Leave as is
Do not reencode the source font – any selection in the source list's pop-up menu is ignored.

A list of potential codepages to which the font can be reencoded follows these three commands. The number of available codepages depends on the number of characters in the font.

When TransType finally gets the information about the Unicode indexes to which the font's characters are mapped (from the font or after you have assigned a codepage to the source font), it knows which destination codepages this font can support and shows only these codepages in the destination encodings menu.

➲ ***Tip***: To force TransType to include all available Macintosh codepages in this menu, press and hold down the **Command** key on the keyboard before clicking the pop-up menu button. To get access to all the possible codepages, click and hold down the **Option** key.

Assigning a Script Code

After you have selected the source and destination codepages, assign a script code to the font using the **Script** submenu. Note that for most Macintosh encodings when you select the destination codepage TransType will automatically select the correct script code.

Use the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog to select the script code that will be used by default:

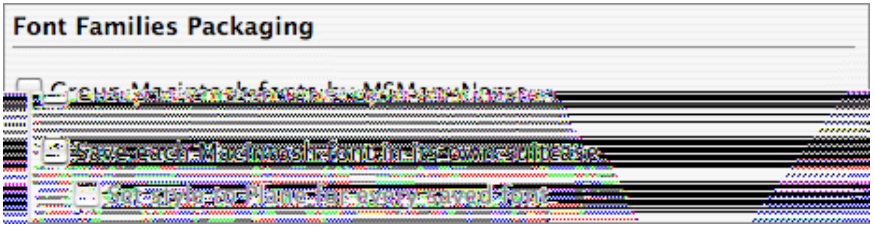
To summarize the process of font reencoding:

1. TransType determines the Unicode indexes of all the characters in the source font. It does this automatically if the source font has a valid Unicode table or with your help when you select the source encoding in the source pop-up menu.
2. Depending on the selection you made in the destination list's pop-up menu TransType maps up to 256 Unicode indexes to the 0-255 code space as is required by the Mac OS.
3. A Script code is assigned to the font.

Customizing Suitcases

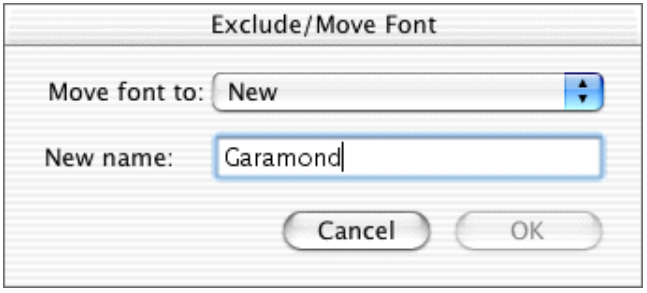
When you convert several fonts that form a font family on a PC, TransType will automatically combine these fonts into a Macintosh font family suitcase. If for some reason you don't want TransType to do this, you have the following options:

1. Force TransType to put all fonts in separate suitcases by checking **Save each Macintosh font in its own suitcase** on the **Font Families Packaging Page** of the **Preferences** dialog:



   This is unusual and we do not recommend you switch on this option. But if you do, the **Set style to Plain for every saved font** option is recommended to simplify the usage of the fonts. When this option is on, all fonts that are placed in separate suitcases will have the plain style flag, even if the original fonts are not plain.

2. Exclude the font from the current suitcase and move it into the new one. To do this, select the font instance (not suitcase) that you want to move in the destination list, click the pop-up menu button at the right and select the **Exclude** command in the pop-up menu. The following dialog appears:



Exclude/Move Font Dialog

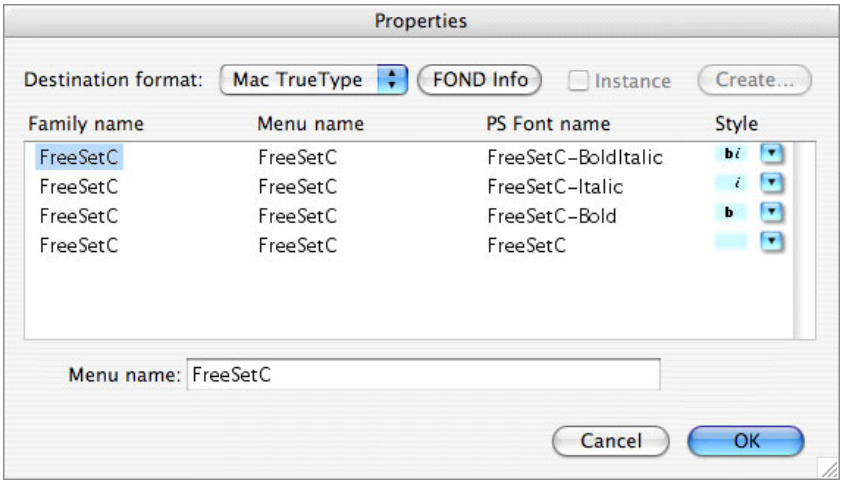
In the **Exclude/Move Font** dialog select the suitcase to which you want to move the font in the **Move font to** pop-up menu or select **New** to extract the font into a new empty suitcase. Change the font name in the editing field below if necessary. Note that if some fonts in the suitcase have conflicting styles (for example, if you have two italic fonts), then the **OK** button is disabled. Correct the problem or press **Cancel** to close the dialog.

3. Change the style of the particular font in the suitcase by selecting the appropriate item in the pop-up menu located at the right of the font name in the destination list:

Style Pop-up Menu

Font Properties

You can easily edit the destination font suitcase information. Select the suitcase in the destination list. Press on the pop-up button to the right and select the **Properties** command in the pop-up menu or just double-click the suitcase icon or name. The **Properties** dialog appears:



Font Properties Dialog

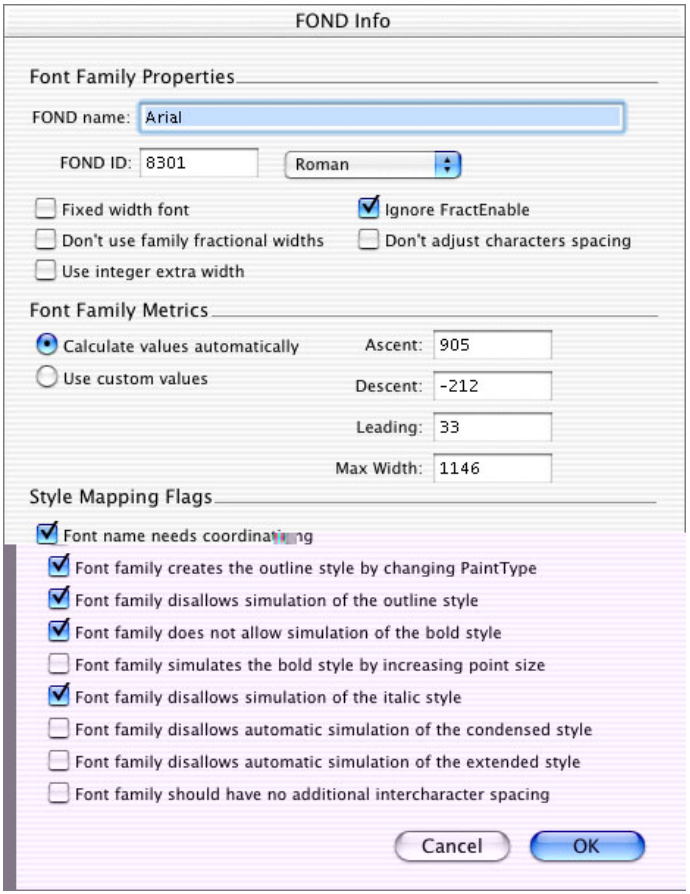
In this dialog you can:

1. View the names and styles of the fonts in this family.
2. Change the font Menu name (the name which will appear in the font menu when this font is installed). Use the **Menu name** editing field to change the menu name. Note that the menu name is the name of the FOND resource on the Macintosh.
3. Change the destination platform and format in the **Destination Format** pop-up menu. Note that you can convert the font without changing the platform or the font format (for example, Win TrueType to Win TrueType).
4. Set **Mac TrueType (dfont)** as the destination format to create a suitcase with resources placed in the data fork. This kind of suitcases is used in MacOS X but cannot be used in Classic systems.
5. Set the option to create a single master font from a multiple master (will be described later when speaking about Type 1 fonts).
6. And finally, choose to edit Macintosh FOND resource information for the suitcase by pressing the **FOND Info** button. Obviously this button is available only when converting to Macintosh platform.

For more control of the font header information, you need **TransType Pro** available as a separate product.

Macintosh FOND Properties

When you press the **FOND Info** button in the Properties dialog, the **FOND Info** dialog appears in which you can change some parameters:


FOND Info
Font Family Properties
FOND name: Arial
FOND ID: 8301
Roman
Fixed width font
Ignore FractEnable
Don't use family fractional widths
Don't adjust characters spacing
Use integer extra width
Font Family Metrics
Calculate values automatically
Use custom values
Ascent: 905
Descent: -212
Leading: 33
Max Width: 1146
Style Mapping Flags
Font name needs coordinating
Font family creates the outline style by changing PaintType
Font family disallows simulation of the outline style
Font family does not allow simulation of the bold style
Font family simulates the bold style by increasing point size
Font family disallows simulation of the italic style
Font family disallows automatic simulation of the condensed style
Font family disallows automatic simulation of the extended style
Font family should have no additional intercharacter spacing
Cancel
OK

FOND Info Dialog

Usually you won't need to change these parameters. But if you are a professional in font design, this dialog is for you.

Besides the FOND name, which is the same as the font menu name, you may edit parameters in the following groups.

Font family properties:

FOND ID	FOND resource identifier (or family ID number) lying in the range of the particular script. Changing the script in the pop-up menu to the right will automatically change FOND ID and vice versa. When you change the destination codepage, the script and therefore the FOND ID change as well
Fixed width font	If this option is switched on, the font will be treated by the Macintosh system as one with characters of fixed width (monospaced). Otherwise, the font is treated as proportional
Don't use family fractional widths	If this option is switched on, the system will not use the global family widths table
Use integer extra widths	If this option is switched on, the system will use the family style extra widths table (Family Style Property Table)
Ignore FractEnable	If this option is switched on, the system will use the family style extra widths table (Family Style Property Table) even if the option **Don't use family fractional widths** is switched off
Don't adjust characters spacing	This option represents the 11th bit of the family flags, which is usually set to zero.

Font metrics:

Calculate values automatically	If this radio button is checked, TransType will automatically calculate vertical metrics for the destination family. You cannot edit global family metrics manually in this case
Use custom values	If this radio button is checked, you get access to the following fields to change them. Edit family vertical metrics only if you are sure and understand the purpose well
Ascent	The maximum height above the baseline reached by characters in this family fonts
Descent	The maximum depth below the baseline reached by characters in this family of fonts. The depth is usually a negative number
Leading	Maximum leading for the family. The leading value is usually set to zero
MaxWidth	Maximum character width for the family.

Style mapping flags (Font Class):

Font name needs coordinating	This option is switched on if the font name needs coordinating
Font family creates the outline style by changing PaintType	When this option is switched on, the **Outline** style of the family will be created by changing PaintType, a PostScript variable, to 2
Font family doesn't allow simulation of the outline style	This option is switched on if the font family disallows simulating the **Outline** style by smearing the glyph and whiting out the middle
Font family doesn't allow simulation of the bold style	This option is switched on if the font family disallows simulating the **Bold** style by smearing the glyphs
Font family simulates the bold style by increasing point size	This option is switched on if the font family simulates the **Bold** style by increasing the point size
Font family doesn't allow simulation of the italic style	This option is switched on if the font family disallows simulating the **Italic** style
Font family doesn't allow simulation of the condensed style	This option is switched on if the font family disallows automatic simulation of the style **Condensed**
Font family doesn't allow simulation of the extended style	This option is switched on if the font family disallows automatic simulation of the style **Extended**
Font family should have no additional intercharacter spacing	This option is switched on if the font family should have no additional spacing other than the space character.

To get full information about the parameters represented in the FOND Info dialog, refer to "Inside Macintosh:Text:Font Manager".

***Note*: If you are not a professional in font design, be very careful when changing the FOND Info options.**

Type 1 Fonts

Conversion of PC Type 1 fonts to Macintosh format is similar to the TrueType conversion process with the following differences:

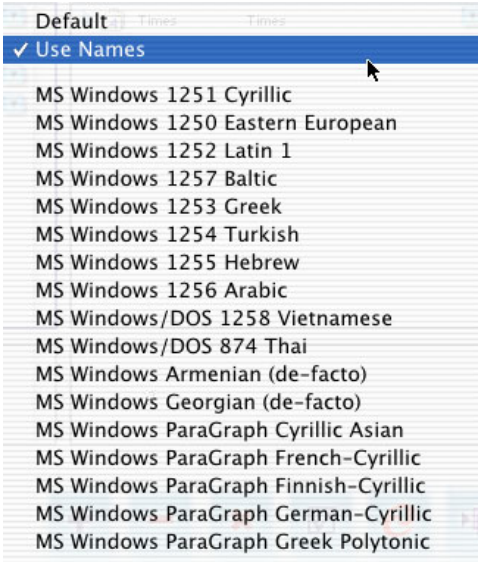
1. The characters in Type 1 fonts are identified by names, not Unicode indexes.
2. The metrics and kerning information of Type 1 characters on the PC is located in separate metrics files (PFM or AFM).
3. There are no multiple master TrueType fonts.

Reencoding

Type 1 fonts also must be reencoded when converting from PC to Macintosh. To simplify this process and make it similar to the one used when TrueType fonts are processed, TransType automatically assigns Unicode indexes to all characters in a Type 1 font using a special table containing thousands of name-Unicode pairs. This way TransType can correctly handle Type 1 fonts that have more than 256 characters.

Note that this name–>Unicode method works correctly only when characters in a Type 1 font have correct PostScript names. In cases when names are assigned incorrectly (for example, characters from a non-Latin language using Latin character names) another method is used, similar to the one that we described above when talking about the conversion of symbol-encoded TrueType fonts.

When you add a PC Type 1 font to the source fonts list you'll see the pop-up menu button at the right of the font name. Click on it and you'll see the menu:


Default
✓ Use Names
MS Windows 1251 Cyrillic
MS Windows 1250 Eastern European
MS Windows 1252 Latin 1
MS Windows 1257 Baltic
MS Windows 1253 Greek
MS Windows 1254 Turkish
MS Windows 1255 Hebrew
MS Windows 1256 Arabic
MS Windows/DOS 1258 Vietnamese
MS Windows/DOS 874 Thai
MS Windows Armenian (de-facto)
MS Windows Georgian (de-facto)
MS Windows ParaGraph Cyrillic Asian
MS Windows ParaGraph French-Cyrillic
MS Windows ParaGraph Finnish-Cyrillic
MS Windows ParaGraph German-Cyrillic
MS Windows ParaGraph Greek Polytonic

Source Encoding Pop-up Menu

As you can see, there is a list of codepages (we discussed what this means in the TrueType section above) and two commands – **Default** and **Use Names**.

If you select the **Default** item TransType will refer to the codepage selected as the default in the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog:

If you select **Use Names** (the default option for the source encoding pop-up menu) TransType will try to convert character names to Unicode indexes and later apply Unicode-based reencoding algorithms. We recommend that you always use the names-Unicode method unless you know that the source font has symbol or simulated encoding, in which case you will manually select a codepage from the codepages list. Remember that you may use the font preview feature to look at the encoding.

As in TrueType, after you define the source codepage you should select a destination codepage to completely define the reencoding process.

All the characters now have some Unicode index assigned, so you can follow the same process described in the TrueType section.

Metrics Files

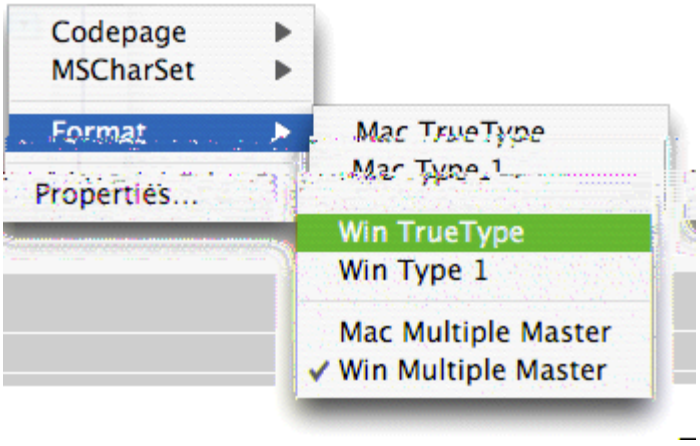
TransType uses the following sequence to create known font metrics: AFM+INF, PFM, PFB. If metrics for a particular character are not present in the PFM file, then they are extracted from the font file (PFB). After conversion the metrics information is stored in the FOND resource, as required by the Mac OS. Here is a more detailed description of the algorithm that is applied by TransType to find a metrics file:

1. It looks for the **name.AFM** file (**name** is the name of the PFB file: **name.pfb**) located in the same folder. If it locates the file, it extracts the metrics from it.
2. If the AFM file is not present, it looks for the **name.PFM** file in the same folder and, if the file is not found there, in the *PFM* subfolder of the current folder.
3. If the PFM file is found, it reads the kerning and metrics data from it. Then TransType opens the PFB file and partially interprets it to extract the metrics for the characters that are not covered by the PFM.

Multiple Master Fonts

TransType can convert multiple master fonts into virtually any format or platform. After you have added a PC multiple master Type 1 font to the source fonts list for conversion, TransType automatically prepares to convert it to a multiple master Type 1 font for Macintosh as set in the **Defaults/Formats Page** of the **Preferences** dialog. You can see this in the destination fonts list of the Main Window.

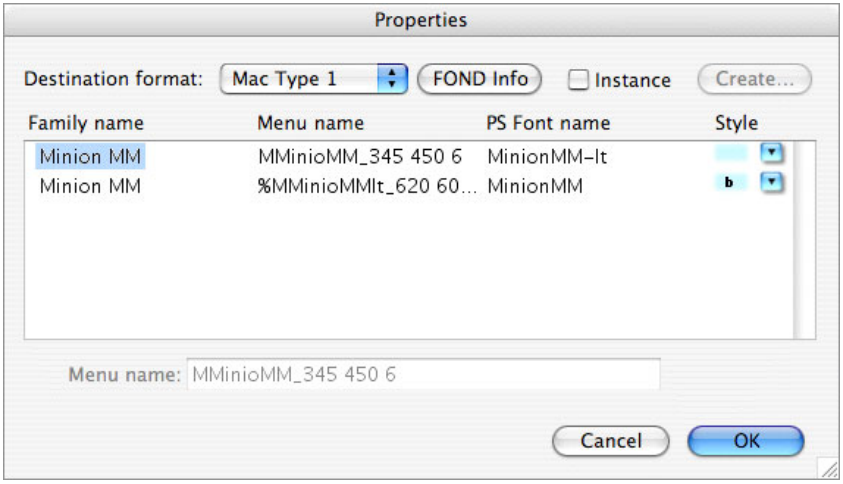
To change the format, press the pop-up menu button to the right of the suitcase name in the destination list and use the **Format** submenu:



As with other fonts in the list, you can select the **Properties** command for greater control of output formatting.

➲ ***Tip***: You can just double-click the suitcase icon or name to get the **Properties** dialog.

The familiar Properties dialog appears:

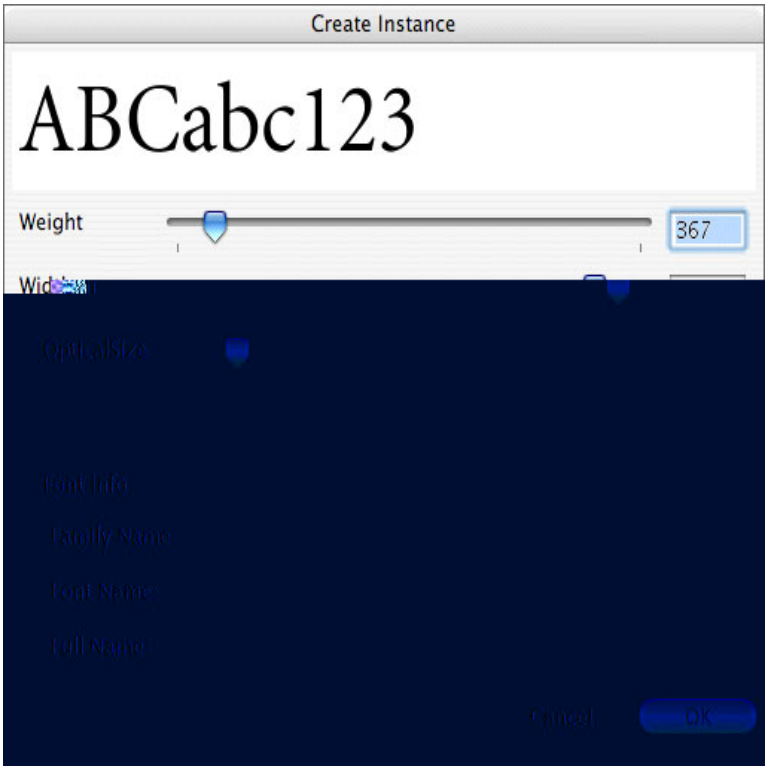


Font Properties Dialog

You can change font style attributes and the FOND properties here in the same way as for the TrueType fonts described earlier. And one more option becomes available when a multiple master font is converted: **Create instance**. You *may check* this option if you want to create a single master Type 1 font, but you *MUST check* this option to convert to a TrueType font. That is why, if you change the font type to TrueType this option will be checked automatically.

Note: Multiple master fonts have characters with varying parameters (width, weight etc.) by their nature. If you choose some constant values for these parameters and fix them you will get an "instance" of the font that is a plain Type 1 font.

After the **Instance** checkbox is checked, click on the **Create** button. TransType reads the multiple master font and presents the following dialog with preview:

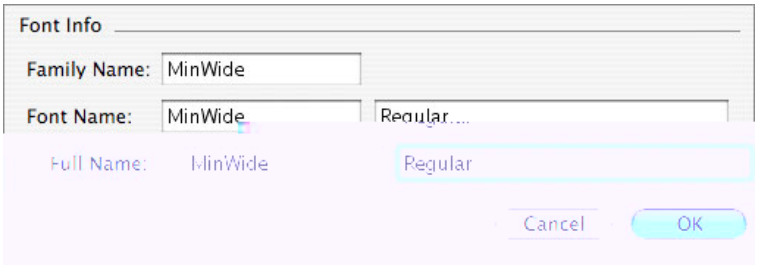


Create Instance Dialog

The process of creating the single master is very simple: you just select one of the instances of the multiple master font by dragging the **Weight**, **Width** and **Optical Size** sliders and previewing the result. Then you can edit the single master Family Name and automatically generated Font Name and Full Name postfixes (“367_wt_585_wd_11_op” and “367 wt 585 wd 11 op” in our example) in the editable text boxes.

As you can see it is possible to generate as many font instances as you want from one multiple master font. But this cannot be done in one step.

If you are going to generate several single master fonts from one multiple master font, you **must** then enter a unique family name for each font you're creating in the **Family Name** field. In both **Font Name** and **Full Name** postfixes always enter "Regular":



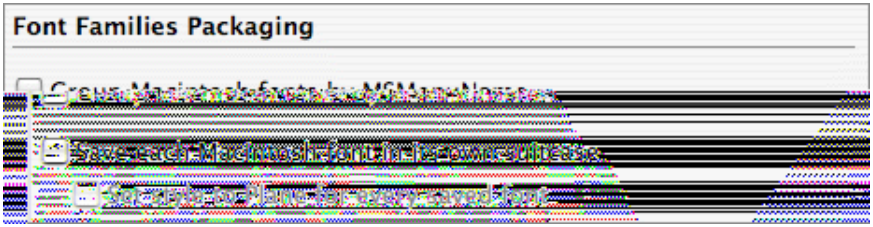
Press the **OK** button when you are finished defining the instance of the multiple master font.

Note: If you switch on the **Instance** option but do not manually specify the instance parameters in the **Create Instance** dialog, then TransType will produce the single master font using the default weight vector stored in the multiple master font. To create a different instance you will need to manually specify the instance parameters.

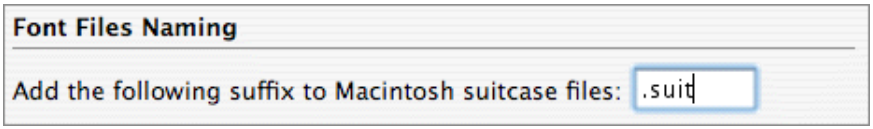
Suitcases

Suitcases containing ("referring to", if speaking more precisely) Type 1 fonts have no major differences from suitcases containing TrueType fonts ('sfnt' resources), so please refer to the TrueType section above for information about suitcase manipulations and font suitcase properties.

The only additional option that may be useful when converting PC Type 1 fonts is to force TransType to generate suitcases by checking and using the MSMenuName fields in the .inf files. This option, named **Group Macintosh fonts by MSMenuName,** is located on the **Font Families Packaging Page** of the **Preferences** dialog:



It may be useful also to set the file extension for suitcase files on the **General/Font Files Naming Page** of the **Preferences** dialog:



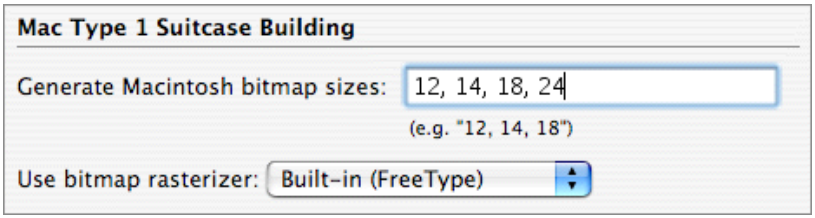
This file name extension is not necessary but it helps to distinguish visually the suitcases and the accompanying printer font files in MacOS X.

Note: dfont extension is added automatically when you set **Mac TrueType (dfont)** as the destination format in the Properties dialog. You do not need to set this extension in Preferences.

Bitmap Fonts

Any Type 1 font on the Macintosh must have at least one accompanying bitmap font. TransType will automatically build a bitmap font when you convert a PC Type 1 font to Macintosh format and it can do so using one of three methods:

1. FreeType rasterizer built into TransType. This is the default and the only choice if you do not have ATM installed in Mac OS 9:



Bitmap Generating Options

2. If ATM is present we highly recommend you to select it in the **Use bitmap rasterizer** pop-up menu. It's the best way to automatically make professional-quality Macintosh Type 1 fonts that will work smoothly everywhere.

3. If you are using the MacOS X operating system you may switch to the ATSUI (MacOS X system) rasterizer.

Note: PC bitmap fonts and font sets aren't converted to Macintosh bitmap fonts with TransType.

You sometimes may need to create a so-called ATR-compatible suitcase. You can do this if you switch on the **Create suitcases with merged styles** option on the **Generate Type 1/Macintosh Suitcase Page** of the **Preferences** dialog.

Macintosh to PC Conversion

Converting Macintosh fonts to PC is easier than vice versa for the following reasons:

1. There are no suitcases on PCs.
2. PC TrueType fonts are based on Unicode, so usually the reencoding process is simpler.
3. Bitmap fonts are not necessary for Type 1 fonts on PCs.

On the other hand, when Type 1 fonts are converted from Macintosh to PC you must generate metrics files that will be used by Windows for information about characters' widths and kerning.

TrueType Fonts

When you add a Macintosh font suitcase containing TrueType fonts (sfnt resources) to the Source list, you must let TransType know which codepage it uses. The only case when this is not necessary is when the source Macintosh TrueType font has a Unicode table (usually the case).

To select a codepage for the source TrueType font follow the rules that were described when we talked about converting PC TrueType fonts to Macintosh format.

After TransType knows for which codepage a TrueType font was encoded, it can assign Unicode indexes to the font's characters and generate a correct Unicode-mapped font, as Windows requires.

Note that the accompanying bitmap fonts (if any) from the same Macintosh suitcase are not copied or converted to PC font format.

See also the TrueType<–>Type 1 Conversion section for information on different TrueType creation options.

Type 1 Fonts

Conversion of Type 1 fonts from Macintosh to PC is very similar to the conversion from PC to Macintosh. The only difference is the handling of the metrics. Metrics information (a character's width(s) and kerning) is extracted from the font suitcase and converted to AFM, INF and PFM files. Of course, the reencoding information is used when the metrics files are generated so that you get a valid PC Type 1 font file.

Note that the accompanying bitmap fonts from the Macintosh suitcase are not copied or converted to PC font format as in the case with TrueType fonts. **But you must always add suitcases to TransType but not printer font files only.**

See also the TrueType<–>Type 1 Conversion section for information on different Type 1 creation options.

TrueType<–>Type 1 Conversion

By default TransType converts between platforms but not between formats (TrueType to TrueType and Type 1 to Type 1). You have the option to change the destination font type in the destination **Format** pop-up menu or in the **Font Properties** dialog.

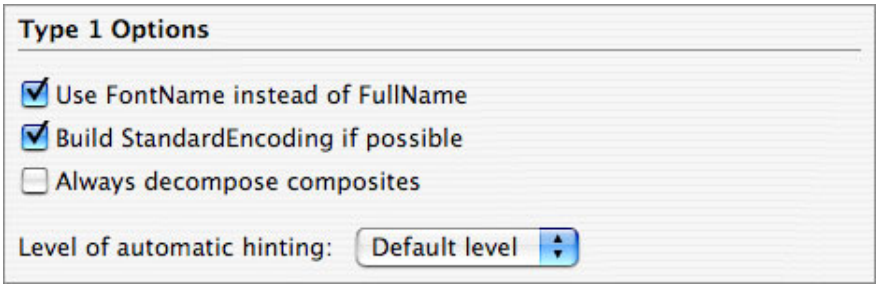
Before you change the destination font type (and actually before adding fonts to the Main Window), it is a good idea to check some of the more important options for generating fonts in the destination format.

Note: If you change any of the options in the **Preferences** dialog, you have to re-add the fonts to the source fonts list in order to convert them according to the "new rules".

Type 1 Options

To check and set parameters for generating Type 1 fonts, click the **Preferences** button at the bottom of the Main Window and refer to the **Generate Type 1** section of the **Preferences** dialog.

General Type 1 Options



Generate Type 1 Page of the Preferences Dialog

There are only four controls on the **Generate Type 1** page:

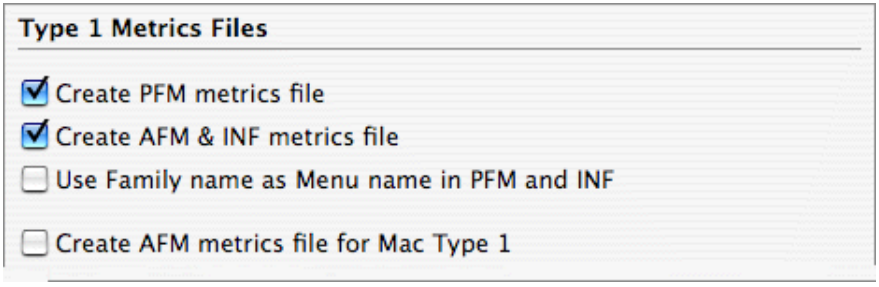
Use FontName instead of FullName	If this option is checked, TransType will name the files of Type 1 fonts on the basis of FontName. If this option is off, TransType will name the files on the basis of FullName. In some cases this affects the font menu name too. We recommend you keep this option switched on
Build Standard Encoding if possible	If this option is checked, TransType will try to replace the encoding information in the font with a reference to the Adobe's StandardEncoding vector. This replacement is possible only if the destination font conforms to the Adobe standard encoding table. This option is on by default
Always decompose composites	If this option is checked, TransType will decompose all composite characters imported from the source font and write them decomposed to the destination font. This option is off by default

The **Level of automatic hinting** pop-up menu allows you to control Type 1 hinting. Autohinting is not needed when conversion from Type 1 format is performed. All old hinting information is preserved in this case. But when conversion from TrueType is performed, the are two ways to deal with hints:

1. To not generate hinting information in a new Type 1 font: Select **No Hinting** in the **Level of autohinting** pop-up menu. The font will loose quality in this case.
2. To use the special autohinting algorithms that convert TrueType instructions into Type 1 hints: Select **Default Level** item in the **Level of autohinting** pop-up menu. This option is set by default.

Metrics Options

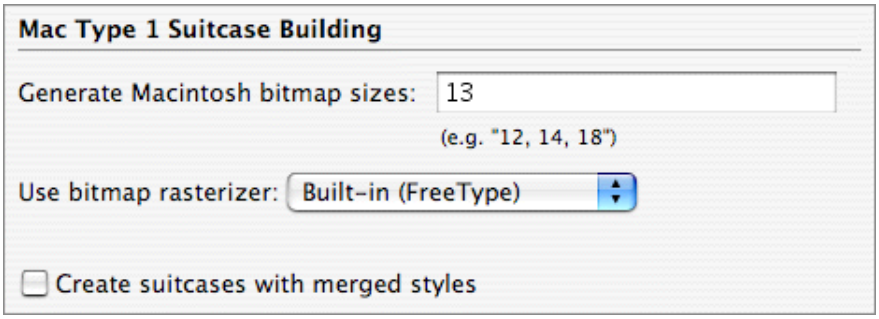
Refer to the **Generate Type 1/Metrics Page** of the **Preferences** dialog:


Type 1 Metrics Files
Create PFM metrics file
Create AFM & INF metrics file
Use Family name as Menu name in PFM and INF
Create AFM metrics file for Mac Type 1

Generate Type 1/Metrics Page of the Preferences Dialog

Create PFM metrics file (Windows only)	If this option is checked, TransType will save metrics in a PFM file when converting for Windows. This option is on by default
Create AFM & INF metrics file (Windows only)	If this option is checked, TransType will create AFM and INF files when creating Type 1 for Windows. This option is on by default
Use Family name as Menu name in PFM and INF	If this option is checked, TransType will write the font Family name to the Menu name fields in PFM and INF files. It is off by default
Create AFM metrics file for Mac Type 1	If this option is checked, TransType will create a separate AFM metrics file for Macintosh Type 1. This option is off and metrics are saved only to the main font files by default.

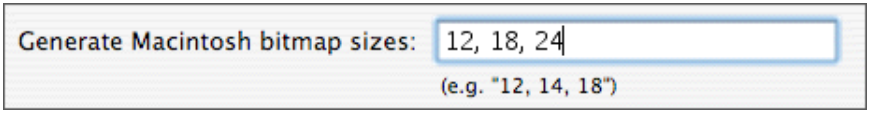
Macintosh Suitcase Options



Generate Type 1/Macintosh Suitcase Page of the Preferences Dialog

The options on this page are useful when creating Type 1 fonts for Macintosh. TransType can automatically generate bitmap fonts with one of three rasterizers. Choose between the built-in FreeType rasterizer or ATSUI on Mac OS X. If you are using classic system and have Adobe Type Manager™ (ATM) installed, then choose between the built-in FreeType and ATM's rasterizers.

You can request several sizes of bitmap fonts:



Enter the point sizes of the bitmaps you want to export with the Mac Type 1 font, separating values by a space or comma.

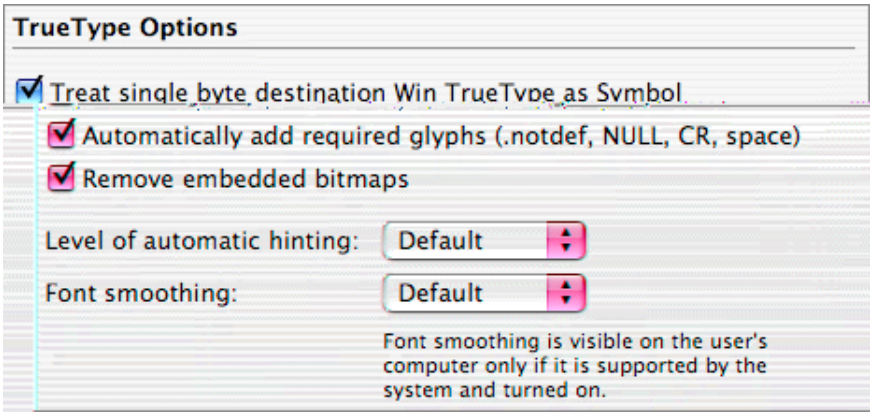
If the **Create suitcases with merged style**s option is checked, TransType will generate a font suitcase compatible with Adobe Type Reunion™, which lets the font's styles appear in the hierarchical menu of the font menu like that:

This option is off by default.

TrueType Options

To check and set parameters for generating TrueType fonts, click the **Preferences** button at the bottom of the Main Window and refer to the **Generate TrueType** section of the **Preferences** dialog.

General TrueType Options


TrueType Options
Treat single byte destination Win TrueType as Symbol
Automatically add required glyphs (.notdef, NULL, CR, space)
Remove embedded bitmaps
Level of automatic hinting:
Default
Font smoothing:
Default
Font smoothing is visible on the user's computer only if it is supported by the system and turned on.

Generate TrueType Page of the Preferences Dialog

Here is the description of controls which are used to customize the TrueType font generating process:

Treat single byte destination Win TrueType as Symbol	If this option is checked, TransType will generate a non-Unicode Windows TrueType font as a Symbol font. All characters in this font will be mapped to F000-F0FF range. This option is on by default
Automatically add required glyphs	If this option is checked, TransType will add some predefined glyphs in a TrueType font automatically. These are the “missing” character and the “space” for Windows TrueType, and the “missing” (“default”), “null”, “space”, “CR”, and sometimes “non-breaking space“ for Macintosh TrueType. This option is on by default
Remove embedded bitmaps	If this option is not checked, TransType will try to preserve and reencode bitmaps embedded into a TrueType font. TransType can reencode embedded bitmaps only with our old TransType 1.x conversion method (see the description of the General Conversion Options). This option is on and embedded bitmap fonts are stripped by default.

When conversion of a Type 1 font into TrueType format is performed, Type 1 hints must be converted into TrueType instructions. This conversion can be done by two methods: **Default** and **Advanced**.

The Default method is commonly used and always produces good results. The Advanced method is sometimes better than the default method as it can produce delta hints. Select the method of TrueType hints creation in the **Level of automatic hinting** pop-up menu. If **No hinting** item is selected, there will be no hints in the destination TrueType font.

Note: TrueType hinting options will be ignored when conversion of TrueType to TrueType is performed.

Font smoothing is a special technique for improving the appearance of TrueType fonts on the screen. Font smoothing is used by the latest versions of the Windows operating system. With this technique edges of the characters are rendered using shades of gray. Font smoothing may be combined with a gridfitting method that optimizes the character's appearance by adjusting its outline. The **Font smoothing** pop-up menu lets you control the usage of these methods:

1. Choose the **Default** option to apply smoothing and gridfitting methods in accordance with the following table:

Font size in screen pixels	Methods
0-8	Smoothing
9-16	Gridfitting
17-...	Both smoothing and gridfitting

   These are the usual optimal settings for font smoothing.

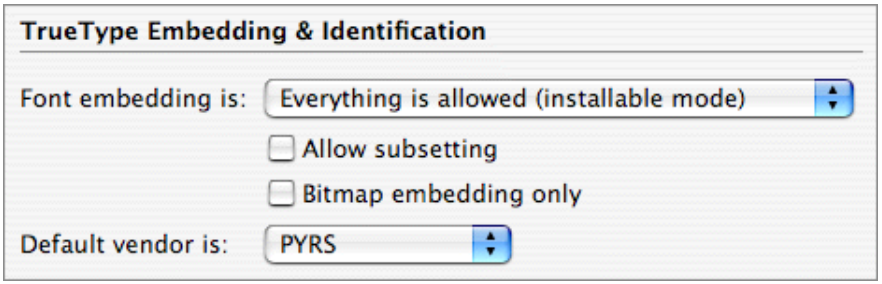
2. Choose the **Off** menu item to not generate the smoothing table in the destination TrueType fonts.

3. Choose the **Always** menu item to apply both smoothing and gridfitting methods to all sizes of the font on the screen:

Font size in screen pixels	Methods
0-...	Both smoothing and gridfitting

Note: Font smoothing table data make sense only on the Windows platform as they are ignored by the Mac OS.

Embedding And Identification Options



Generate TrueType/Embedding & Identification Page of the Preferences Dialog

The **Embedding & Identification Page** contains two additional pop-up menus and two checkboxes.

The **Font's embedding** pop-up controls how the font may be embedded into documents. Embedding is a feature of the operating system and some applications that allow programs to include fonts into documents to guarantee that they will be reproduced correctly. However, embedding may cause problems with font piracy. It is not very hard to extract embedded fonts from a document, so the TrueType font format includes a special setting that can control font embedding.

There are four types of font embedding:

Only printing and previewing is allowed	The font may be embedded, but editing of the document it contains is not allowed.
Editing of the document is allowed	The font may be embedded and the document that contains the font may be viewed, printed and edited.
Everything is allowed	After the document is opened the font works as if it was installed in the system.
Embedding is not allowed	Embedding is not allowed for this font.

You cannot reduce or remove the embedding restrictions that were set in the source font by the original creator of the font. You can either leave the embedding restrictions unchanged or set the restrictions higher. For example, if the original font has the embedding level **Editing of the document is allowed** and you change the level to **Everything is allowed** in the Preferences dialog, then in the output font the original embedding level will be retained rather than the one you set. But if you change the embedding level to **Not allowed,** then the embedding in the output font will be changed.

Additionally you can use the **Allow subsetting** and the **Bitmap embedding only** options for more control of the embedding fonts into documents.

The **Default font's vendor** pop-up allows you to set the special up-to-four letter length code that is assigned to most TrueType producers to identify their fonts. An *uppercase* vendor code must be registered with Microsoft or Apple. All registered Vendor codes known at the time of TransType's release are placed in the pop-up menu. You don't need to change the default 'PYRS' vendor code if you do not have your own.

FontLab (VFB) Font Conversion

TransType can convert fonts from the VFB format used internally in other FontLab products. They can be converted to any format for any platform. There are, however, a few caveats:

1. Converting a VFB font in TransType is the same as exporting it from a Fontlab application, only with the additional power that you can choose the encoding.
2. When you add a single master VFB font to the source list of the Main Window, TransType prepares to convert it to a Macintosh TrueType font by default. You can change the destination format using the **Format** submenu as with other fonts.
3. When you add a multiple master VFB font to the source list of the Main Window, TransType prepares to convert it to a Macintosh Type 1 multiple master font by default. For details please see the section on multiple master fonts conversion.
4. As with other conversions you can use the different TrueType and Type 1 creation options described in the TrueType<–>Type 1 Conversion section. Please note that the option “Prefer to use TransType 1.xTransType 1.x conversion engine” doesn’t work with VFB files.

Other Types of Conversion

By default TransType converts between platforms in one format (Win TrueType to Mac TrueType etc.). This is set on the **Defaults/Formats Page** of the **Preferences** dialog and can be changed. You have also the option to change the destination platform and format in the destination **Format** pop-up menu or in the **Font Properties** dialog and convert, for instance, PC TrueType to PC TrueType or Mac Type 1 to Mac Type 1.

Why would you want to do this?

1. To change a font's encoding.
2. To decompose composites in a font.
3. To compact fonts by removing extra glyphs, etc.

Note: Not all the options from the **Generate Type 1** and **Generate TrueType** sections of the **Preferences** dialog work when conversion within one format is performed. For example, hinting options never work in such cases.

Technical Details

Here we'll add some technical details for professional TransType users. With the information contained here you can customize some of TransType's features and better understand how it works.

Type 1 Fonts

TransType opens every Type 1 font being converted and partially interprets it to extract the names of all the characters present in the font and the information about the characters' widths. Note that information about the characters' bounding boxes is not extracted, so when Macintosh fonts are converted to PC and an AFM file is generated, the font bounding box is used instead of character bounding boxes.

Information about the mapping of PostScript names of characters to Unicode indexes is located in the Standard.nam file located in the *Library/Application Support/FontLab/Mapping* folder. This file has a very simple structure – every line contains a PostScript name and its corresponding Unicode index. You can edit this file or extend it at your own risk.

In addition to the Standard Names file TransType uses an algorithm that decodes names constructed according to Adobe's "uniXXXX" rule.

TrueType Fonts

When TransType opens PC TrueType fonts it looks for a (3.1) CMap table. If this table is found then the font is marked as a normal Unicode font. If not TransType tries to open the (3.0) table – if this table is present, it means that the source font is a symbol font.

The last table that is checked is the (1.0) table usually used to encode fonts on the Macintosh. This table is also used as a symbol-mapping table. If the font contains more glyphs than are covered by the (1.0) CMap table, TransType tries to open the post table, extract the glyph names and find Unicode indexes using the same method which is used when PostScript names of the Type 1 characters are mapped to Unicode.

Note that the same search sequence is used when a font is converted from Macintosh to PC.

The MacStyle field of the head table is used to detect the style of a Windows TrueType font.

AAT (Apple Advanced Typography) features **are not created** when converting to Macintosh TrueType.

Ascender and descender values are extracted from the head table. The OS/2 table is not used for these purposes.

Customizing Codepages

Files containing definitions of the codepages that appear in the pop-up menus are in the *Library/Application Support/FontLab/Codepage* folder and have a simple text structure. You can edit the existing files and make your own codepages following the structure of any existing file. You may put the edited codepages in the *Library/Application Support/FontLab/TransType/ Codepage* folder or in the *~/Library/Application Support/FontLab/ Codepage* folder.

Note that only a limited number of codepages appear in the lists by default. The full list of codepages appears if you hold down the **Option** key while opening the pop-up menu.

Bibliography

TrueType, OpenType and TrueType Open Specifications from Microsoft:

http://www.microsoft.com/typography/tt/tt.htm

TrueType Specification by Apple:

http://fonts.apple.com/TTRefMan/index.html

Adobe Type 1 Font File Specification:

http://www.adobe.com/supportservice/devrelations/PDFS/TN/T1_SPEC.PDF

Adobe's Glyph Naming for Type 1 Font Programs:

http://www.adobe.com/supportservice/devrelations/PDFS/TN/5089_GlyphNaming.pdf

Unicode Consortium:

http://www.unicode.org

Inside Macintosh: Text: Font Manager

http://developer.apple.com/techpubs/mac/Text/Text-181.html

Inside Macintosh: Text: Script Manager (information related to scripts and languages):

http://developer.apple.com/techpubs/mac/Text/Text-354.html

Support

For further information about TransType browse to the TransType home page:

http://www.fontlab.com/Font-tools/TransType/

Use the following address to get support information, TransType updates and downloads:

http://www.fontlab.com/Font-tools/FontLab-Product-Support/

In case of any questions about TransType or any other of our products use the form at:

http://www.fontlab.com/Font-tools/FontLab-Product-Support/

A Note on Intellectual Property

Digital fonts are complex computer programs created with a good deal of hard work by individuals and companies. They are valuable intellectual property and are protected by trademark, copyright, and patent laws. The details and extent of this protection varies in different countries, but the basics are as follows:

Trademark: A font name (and only the name) may be trademarked. Only the trademark owner or licensees may use the name to describe a font.

Copyright: Computer programs are copyrighted. In the U.S.A. this happens automatically as soon as the program is written. Further rights may be secured by registering the copyright.

Patent: Some fonts, if they are distinctive and unusual enough, may be granted a design patent. Only the patent holder or licensees may use this font design.

If you purchase a font and then modify it for **your own use** you are probably within the bounds of “fair use” and the font licensing agreement. However, if you modify a purchased font and then sell or distribute it you may be in violation of copyright, patent or licensing laws. Please read your font license agreement carefully or contact the licensor to determine your rights and obligations.

Appendix A
Basics of Digital Font Organization

Digital fonts consist of glyphs (drawings) of characters (letters of alphabets/scripts) organized (encoded) in a particular arrangement. Because there are many different languages and scripts each alphabet has its own arrangement (codepage) which allows a computer to know where to find a particular character, retrieve the glyph, and either print or display it for the computer user.

The most familiar “encoding” to most North Americans and Western Europeans is alphabetic order. Dictionaries, thesauri, membership lists, databases, etc. all use this “encoding” to organize their contents. Font encodings are a bit more complicated, because they must include not only the letters of the alphabet (which must be represented in both their uppercase and lowercase forms) but also punctuation, symbols, and typographic necessities (like spaces of various sizes). Early in the history of computing a standard “font” of 256 characters was decided upon because that was the number that could be addressed by one byte of data.

Of course as soon as a few more alphabets were added it became obvious that 256 characters was not nearly enough. Many different arrangements were used and it looked like every country would have its own – some several. Thus Unicode was born and scripts of the world (even

Definitions

AAT (Apple Advanced Typography) fonts
the TrueType fonts especially designed for use with ATSUI. Like OpenType fonts these fonts have special features such as swashes, contextual forms, ligatures etc. These fonts are widely presented among system fonts in Mac OS X and are supported in Cocoa applications.

AFM (ASCII Font Metrics) file
a *text* file that contains the metrics information for a PC Type 1 font.

Alphabet/Script
the collection of characters used to write a particular language. “The” alphabet (as North Americans and English know it) is the script for the English language, Latin script is the script for most European, South-American and some Asian languages. Cyrillic script is used in all Slavonic languages (Russian, Ukrainian, Serbian, Bulgarian and many others). Note that a script usually includes many more characters than necessary for the one language. Latin script, for example, includes more than 200 characters.

ATSUI (Apple Type Services for Unicode Imaging)
Apple's technology and a set of routines that enable the rendering of Unicode-encoded text with advanced typographic features. It automatically handles many of the complexities inherent in text layout, including the correct rendering of text in bidirectional and vertical script systems.

Character
a symbol used in writing. The letter “A”, for instance. Every character has a name, which is used to identify it.

CMap (character map)
a table relating an encoding to a set of internal computer codes. For instance the computer may use the numbers between 1100 and 1356 to represent the characters in a font. When it needs character number 1234 it looks at the CMap table to find the corresponding code, which, in turn, directs it to the appropriate glyph.

Codepage
a 256-character portion of the Unicode encoding table (because that's how much we can address with one byte of data). The Russian codepage, for instance, contains the characters used in writing Russian:

	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	□
Ђ	Ѓ	‚	ƒ	„	…	†	‡	ˆ	‰	Š	‹	Œ	Ќ	Ћ	Џ	ђ	'	'	"	"	•	–	—	˜	™	š	›	œ	ќ	ћ	џ
	Ў	ў	Ј	¤	Ґ	¦	§	Ё	©	Є	«	¬	-	®	Ї	°	±	І	і	ґ	µ	¶	·	ё	№	є	»	ј	Ѕ	ѕ	ї
А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

Composite characters
the characters that have no outline, but link to other font characters. Good example of composite characters are accented characters, like 'Á', 'å' or 'ñ'.

Encoding
the linear arrangement (also called the *encoding vector*) of a script. Alphabetical order, ABCDEFGHIJ..., is the encoding of the English alphabet. In earlier days (and on many older computers) ASCII (American Symbolic Code for Information Interchange) was the standard symbol encoding for computing. The ASCII encoding looks like this:

<space>	32	0	48	@	64	P	80	`	96	p	112
!	33	1	49	A	65	Q	81	a	97	q	113
"	34	2	50	B	66	R	82	b	98	r	114
#	35	3	51	C	67	S	83	c	99	s	115
$	36	4	52	D	68	T	84	d	100	t	116
%	37	5	53	E	69	U	85	e	101	u	117
&	38	6	54	F	70	V	86	f	102	v	118
'	39	7	55	G	71	W	87	g	103	w	119
(	40	8	56	H	72	X	88	h	104	x	120
)	41	9	57	I	73	Y	89	I	105	y	121
*	42	:	58	J	74	Z	90	j	106	z	122
+	43	;	59	K	75	[	91	k	107	{	123
,	44	<	60	L	76	\	92	l	108	|	124
–	45	=	61	M	77	]	93	m	109	}	125
.	46	>	62	N	78	^	94	n	110	~	126
/	47	?	63	O	79	_	95	o	111	□	127

Notice that now a number (its "code") is assigned to each character. This is how the computer identifies the character. Also notice that there are no characters 0-31. This code range is "undefined" (meaning that its behavior is unpredictable). When Unicode came along it adopted the ASCII encoding and just added to it.

FOND resource
Macintosh terminology for the part of a Macintosh font that contains metrics information and describes the contents of a suitcase.

FontLab format
see *VFB format*

Glyph
a graphic representation of a character. An "A" may appear in many different ways:

They are all the letter "A" but each is a different glyph.

INF (Information) file
a text file that contains information about a PC Type 1 font.

Multiple master font
a special type of font format that is an extension of the Type 1 font format. Multiple master fonts contain several font styles, called master fonts, in one font file. A program that uses multiple master font can not only select one of the master fonts, but it also can select an intermediate design created by the linear interpolation of the master fonts.

NFNT resource
Macintosh terminology for the part of a Type 1 or TrueType Macintosh font that contains the bitmap font.

OpenType
OpenType font format, jointly developed by Microsoft and Adobe. OpenType fonts can be TrueType-flavored (or OpenType TT) and PostScript-flavored (or OpenType PS). Both are Unicode-encoded and support special features like swashes, contextual forms, ligatures etc. To convert to and from the OpenType format, you need **TransType Pro** available as a separate product.

PFB (Postscript Font Binary) file
a binary file that contains the glyph outline information for a PC Type 1 font.

PFM (Postscript Font Metrics) file
a *binary* file that contains the metrics information for a PC Type 1 font.

POST resource
Macintosh terminology for the part of a Macintosh font that contains an Adobe Type 1 font.

sfnt resource
Macintosh terminology for the part of a Macintosh font that contains a TrueType font.

Suitcase
Macintosh terminology for a file which contains information about a font or family of fonts.

Table
a set of data defining behaviors or relationships of a font. Digital fonts contain not only the drawings of their characters, but also information about how those characters should behave. Information about the spacing on each side of a character (metrics), how close particular characters should be to each other (kerning), CMaps and many other things can be kept in tables in a font.

TrueType
a font format using quadratic b-spline mathematics to describe glyph outlines. Developed and promulgated by Microsoft and Apple Computer.

Type 1 (Adobe Type 1, PostScript Type 1)
a font format using cubic b-spline mathematics to describe glyph outlines. Developed and promulgated by Adobe Systems.

Unicode range
the portion of Unicode dealing with a particular language or script. E.g. the Hebrew range, the Cyrillic range, the extended Latin range. Unicode range is not limited to 256 characters. It is usually a contiguous part of Unicode.

VFB format
the internal format of FontLab products.